

**FIGURE 1A**

ATGGAAAACTCCATGGGCATGTGTCTGCCCATCCAGACATCCTCTCCT  
TGGAGAACCGGTGCCTGGCTATGCTCCCTGACTTACAGCCCTTGGAGAA  
ACTACATCAGCATGTATCTACCCACTCAGATATCCTCTCCTTGAAGAAC  
CAGTGCCTAGCCACGCTTCCTGACCTGAAGACCATGGAAAAACCACATG  
GATATGTGTCTGCCCACCCAGACATCCTCTCCTTGGAGAACCAGTGCCT  
GGCCACACTTTCTGACCTGAAGACCATGGAGAAACCACATGGACATGTT  
TCTGCCCACCCAGACATCCTCTCCTTGGAGAACCGGTGCCTGGCCACCC  
TCCCTAGTCTAAAGAGCACTGTGTCTGCCAGCCCCTTGTTCCAGAGTCT  
ACAGATATCTCACATGACGCAAGCTGATTTGTACCGTGTGAACAACAGC  
AATTGCCTGCTCTCTGAGCCTCCAAGTTGGAGGGCTCAGCATTTCTCTA  
AGGGACTAGACCTTTCAACCTGCCCTATAGCCCTGAAATCCATCTCTGC  
CACAGAGACAGCTCAGGAAGCAACTTTGGGTCGTTGGTTTGATTGAGAA  
GAGAAGAAAGGGGCAGAGACCCAAATGCCTTCTTATAGTCTGAGCTTGG  
GAGAGGAGGAGGAGGTGGAGGATCTGGCCGTGAAGCTCACCTCTGGAGA  
CTCTGAATCTCATCCAGAGCCTACTGACCATGTCCTTCAGGAAAAGAAG  
ATGGCTCTACTGAGCTTGCTGTGCTCTACTCTGGTCTCAGAAGTAAACA  
TGAACAATACATCTGACCCACCCCTGGCTGCCATTTTTGAAATCTGTCTG  
TGAAGTTGCCCTCCTGGAGCCTGAGTTTATCCTCAAGGCATCTTTGTAT  
GCCAGGCAGCAGCTGAACGTCCGGAATGTGGCCAATAACATCTTGGCCA

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**FIGURE 1B**

TTGCTGCTTTCTTGCCGGCGTGTCGCCCCACCTGCGACGATATTTCTG  
TGCCATTGTCCAGCTGCCTTCTGACTGGATCCAGGTGGCTGAGCTTTAC  
CAGAGCCTGGCTGAGGGAGATAAGAATAAGCTGGTGCCCCTGCCCGCCT  
GTCTCCGTACTGCCATGACGGACAAATTTGCCCAGTTTGACGAGTACCA  
GCTGGCTAAGTACAACCCTCGGAAGCACCGGGCCAAGAGACACCCCCGC  
CGGCCACCCCGCTCTCCAGGGATGGAGCCTCCATTTTCTCACAGATGTT  
TTCCAAGGTACATAGGGTTTCTCAGAGAAGAGCAGAGAAAGTTTGAGAA  
GGCCGGTGATACAGTGTGAGAGAAAAAGAATCCTCCAAGGTTACCCCTG  
AAGAAGCTGGTTCAGCGACTGCACATCCACAAGCCTGCCCAGCACGTTC  
AAGCCCTGCTGGGTTACAGATACCCCTCCAACCTACAGCTCTTTTCTCG  
AAGTCGCCTTCCTGGGCCTTGGGATTCTAGCAGAGCTGGGAAGAGGATG  
AAGCTGTCTAGGCCAGAGACCTGGGAGCGGGAGCTGAGCCTACGGGGGA  
ACAAAGCGTCGGTCTGGGAGGAACTCATTTGAAAATGGGAAGCTTCCCTT  
CATGGCCATGCTTCGGAACCTGTGCAACCTGCTGCGGGTTGGAATCAGT  
TCCCGCCACCATGAGCTCATTCTCCAGAGACTCCAGCATGGGAAGTCGG  
TGATCCACAGTCGGCAGTTTCCATTGAGATTTCTTAACGCCCATGATGC  
CATTGATGCCCTCGAGGCTCAACTCAGAAATCAAGCATTGCCCTTTCCT  
TCGAATATAACACTGATGAGGCGGATACTAACTAGAAATGAAAAGAACC  
GTCCCAGGCGGAGGTTTCTTTGCCACCTAAGCCGTCAGCAGCTTCGTAT

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**FIGURE 1C**

GGCAATGAGGATACCTGTGTTGTATGAGCAGCTCAAGAGGGAGAAGCTG  
AGAGTACACAAGGCCAGACAGTGGAAATATGATGGTGAGATGCTGAACA  
GGTACCGACAGGCCCTAGAGACAGCTGTGAACCTCTCTGTGAAGCACAG  
CCTGCCCCCTGCTGCCAGGCCGCACTGTCTTGGTCTATCTGACAGATGCT  
AATGCAGACAGGCTCTGTCCAAAGAGCAACCCACAAGGGCCCCCGCTGA  
ACTATGCACTGCTGTTGATTGGGATGATGATCACGAGGGCGGAGCAGGT  
GGACGTCGTGCTGTGTGGAGGTGACACTCTGAAGACTGCAGTGCTTAAG  
GCAGAAGAAGGCATCCTGAAGACTGCCATCAAGCTCCAGGCTCAAGTCC  
AGGAGTTTGATGAAAATGATGGATGGTCCCTGAATACTTTTGGGAAATA  
CCTGCTGTCTCTGGCTGGCCAAAGGGTTCCTGTGGACAGGGTCATCCTC  
CTTGGCCAAAGCATGGATGATGGAATGATAAATGTGGCCAAACAGCTTT  
ACTGGCAGCGTGTGAATTCCAAGTGCCTCTTTGTTGGTATCCTCCTAAG  
AAGGGTACAATACCTGTCAACAGATTTGAATCCCAATGATGTGACACTC  
TCAGGCTGTACTGATGCGATACTGAAGTTCATTGCAGAGCATGGGGCCT  
CCCATCTTCTGGAACATGTGGGCCAAATGGACAAAATATTCAAGATTCC  
ACCACCCCCAGGAAAGACAGGGGTCCAGTCTCTCCGGCCACTGGAAGAG  
GACACTCCAAGCCCCCTTGGCTCCTGTTTCCCAGCAAGGATGGCGCAGCA  
TCCGGCTTTTTCATTTTCATCCACTTTCCGAGACATGCACGGGGAGCGGGA  
CCTGCTGCTGAGGTCTGTGCTGCCAGCACTGCAGGCCCCGAGCGGCCCT

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**FIGURE 1D**

CACCGTATCAGCCTTCACGGAATCGACCTCCGCTGGGGCGTCACTGAGG  
 AGGAGACCCGTAGGAACAGACAACTGGAAGTGTGCCTTGGGGAGGTGGA  
 GAACGCACAGCTGTTTGTGGGGATTCTGGGCTCCCGTTATGGATACATT  
 CCCCCAGCTACAACCTTCCTGACCATCCACACTTCCACTGGGCCCAGC  
 AGTACCCTTCAGGGCGCTCTGTGACAGAGATGGAGGTGATGCAGTTCCT  
 GAACCGGAACCAACGTCTGCAGCCCTCTGCCCAAGCTCTCATCTACTTC  
 CGGGATTCCAGCTTCCTCAGCTCTGTGCCAGATGCCTGGAAATCTGACT  
 TTGTTTCTGAGTCTGAAGAGGCCGCATGTCGGATCTCAGAACTGAAGAG  
 CTACCTAAGCAGACAGAAAGGGATAACCTGCCGCAGATACCCCTGTGAG  
 TGGGGGGGTGTGGCAGCTGGCCGGCCCTATGTTGGCGGGCTGGAGGAGT  
 TTGGGCAGTTGGTTCTGCAGGATGTATGGAATATGATCCAGAAGCTCTA  
 CCTGCAGCCTGGGGCCCTGCTGGAGCAGCCAGTGTCCATCCCAGACGAT  
 GACTTGGTCCAGGCCACCTTCCAGCAGCTGCAGAAGCCACCGAGTCCTG  
 CCCGGCCACGCCTTCTTCAGGACACAGTGCAACAGCTGATGCTGCCCCA  
 CGGAAGGCTGAGCCTGGTGACGGGGCAGTCAGGACAGGGCAAGACAGCC  
 TTCCTGGCATCTCTTGTGTCAGCCCTGCAGGCTCCTGATGGGGCCAAGG  
 TGGCACCATTAGTCTTCTTCCACTTTTCTGGGGCTCGTCCTGACCAGGG  
 TCTTGCCCTCACTCTGCTCAGACGCCTCTGTACCTATCTGCGTGGCCAA  
 CTAAAAGAGCCAGGTGCCCTCCCCAGCACCTACCGAAGCCTGGTGTGGG

**FIGURE 1E**

AGCTGCAGCAGAGGCTGCTGCCCAAGTCTGCTGAGTCCCTGCATCCTGG  
CCAGACCCAGGTCCTGATCATCGATGGGGCTGATAGGTTAGTGGACCAG  
AATGGGCAGCTGATTTTCAGACTGGATCCCAAAGAAGCTTCCCCGGTGTG  
TACACCTGGTGCTGAGTGTGTCTAGTGATGCAGGCCTAGGGGAGACCCT  
TGAGCAGAGCCAGGGTGCCACGTGCTGGCCTTGGGGCCTCTGGAGGCC  
TCTGCTCGGGCCCGGCTGGTGAGAGAGGAGCTGGCCCTGTACGGGAAGC  
GGCTGGAGGAGTCACCATTTAACAACCAGATGCGACTGCTGCTGGTGAA  
GCGGGAATCAGGCCGGCCGCTCTACCTGCGCTTGGTCACCGATCACCTG  
AGGCTCTTCACGCTGTATGAGCAGGTGTCTGAGAGACTCCGGACCCTGC  
CTGCCACTGTCCCCCTGCTGCTGCAGCACATCCTGAGCACACTGGAGAA  
GGAGCACGGGCCTGATGTCCTTCCCCAGGCCTTGACTGCCCTAGAAGTC  
ACACGGAGTGGTTTGACTGTGGACCAGCTGCACGGAGTGCTGAGTGTGT  
GGCGGACACTACCGAAGGGGACTAAGAGCTGGGAAGAAGCAGTGGCTGC  
TGGTAACAGTGGAGACCCCTACCCCATGGGCCCGTTTGCCTGCCTCGTC  
CAGAGTCTGCGCAGTTTGCTAGGGGAGGGCCCTCTGGAGCGCCCTGGTG  
CCCGGCTGTGCCTCCCTGATGGGCCCCCTGAGAACAGCAGCTAAACGTTG  
CTATGGGAAGAGGCCAGGGCTAGAGGACACGGCACACATCCTCATTGCA  
GCTCAGCTCTGGAAGACATGTGACGCTGATGCCTCAGGCACCTTCCGAA  
GTTGCCCTCCTGAGGCTCTGGGAGACCTGCCTTACCACCTGCTCCAGAG

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**FIGURE 1F**

CGGGAACCGTGGACTTCTTTCGAAGTTCCTTACCAACCTCCATGTGGTG  
GCTGCACACTTGAATTGGGTCTGGTCTCTCGGCTCTTGGAGGCCCATG  
CCCTCTATGCTTCTTCAGTCCCCAAAGAGGAACAAAAGCTCCCCGAGGC  
TGACGTTGCAGTGTTTCGCACCTTCCTGAGGCAGCAGGCTTCAATCCTC  
AGCCAGTACCCCCGGCTCCTGCCCCAGCAGGCAGCCAACCAGCCCCTGG  
ACTCACCTCTTTGCCACCAAGCCTCGCTGCTCTCCCGGAGATGGCACCT  
CCAACACACACTACGATGGCTTAATAAACCCCGGACCATGAAAAATCAG  
CAAAGCTCCAGCCTGTCTCTGGCAGTTTCCTCATCCCCTACTGCTGTGG  
CCTTCTCCACCAATGGGCAAAGAGCAGCTGTGGGCACTGCCAATGGGAC  
AGTTTACCTGTTGGACCTGAGAACTTGGCAGGAGGAGAAGTCTGTGGTG  
AGTGGCTGTGATGGAATCTCTGCTTGTTTGTTCCTCTCCGATGATACAC  
TCTTTCTTACTGCCTTCGACGGGCTCCTGGAGCTCTGGGACCTGCAGCA  
TGGTTGTCGGGTGCTGCAGACTAAGGCTCACCAGTACCAAATCACTGGC  
TGCTGCCTGAGCCCAGACTGCCGGCTGCTAGCCACCGTGTGCTTGGGAG  
GATGCCTAAAGCTGTGGGACACAGTCCGTGGGCAGCTGGCCTTCCAGCA  
CACCTACCCCAAGTCCCTGAACTGTGTTGCCTTCCACCCAGAGGGGCAG  
GTAATAGCCACAGGCAGCTGGGCTGGCAGCATCAGCTTCTTCCAGGTGG  
ATGGGCTCAAAGTCACCAAGGACCTGGGGGCACCCGGAGCCTCTATCCG  
TACCTTGGCCTTCAATGTGCCTGGGGGGGTGTGGCTGTGGGCCGGCTG

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**FIGURE 1G**

GACAGTATGGTGGAGCTGTGGGCCTGGCGAGAAGGGGCACGGCTGGCTG  
CCTTCCCTGCCCACCATGGCTTTGTTGCTGCTGCGCTTTTCCTGCATGC  
GGGTTGCCAGTTACTGACGGCTGGAGAGGATGGCAAGGTTACAGGTGTGG  
TCAGGGTCTCTGGGTCGGCCCCGTGGGCACCTGGGTTCCCTTTCTCTCT  
CTCCTGCCCTCTCTGTGGCACTCAGCCCAGATGGTGATCGGGTGGCTGT  
TGGATATCGAGCGGATGGCATTAGGATCTACAAAATCTCTTCAGGTTCC  
CAGGGGGCTCAGGGTCAGGCACTGGATGTGGCAGTGTCCGCCCTGGCCT  
GGCTAAGCCCCAAGGTATTGGTGAGTGGTGCAGAAGATGGGTCCTTGCA  
GGGCTGGGCACTCAAGGAATGCTCCCTTCAGTCCCTCTGGCTCCTGTCC  
AGATTCCAGAAGCCTGTGCTAGGACTGGCCACTTCCCAGGAGCTCTTGG  
CTTCTGCCTCAGAGGATTTACAGTGCAGCTGTGGCCAAGGCAGCTGCT  
GACGCGGCCACACAAGGCAGAAGACTTTCCCTGTGGCACTGAGCTGCGG  
GGACATGAGGGCCCTGTGAGCTGCTGTAGTTTCAGCACTGATGGAGGCA  
GCCTGGCCACCGGGGGCCGGGATCGGAGTCTCCTCTGCTGGGACGTGAG  
GACACCCAAAACCCCTGTTTTGATCCACTCCTTCCCTGCCTGTCACCGT  
GACTGGGTCACTGGCTGTGCCTGGACCAAAGATAACCTACTGATATCCT  
GCTCCAGTGATGGCTCTGTGGGGCTCTGGGACCCAGAGTCAGGACAGCG  
GCTTGGTCAGTTCCTGGGTCATCAGAGTGCTGTGAGCGCTGTGGCAGCT  
GTGGAGGAGCACGTGGTGTCTGTGAGCCGGGATGGGACCTTGAAAGTGT

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**FIGURE 1H**

GGGACCATCAAGGCGTGGAGCTGACCAGCATCCCTGCTCACTCAGGACC  
CATTAGCCACTGTGCAGCTGCCATGGAGCCCCGTGCAGCTGGACAGCCT  
GGGTCAGAGCTTCTGGTGGTAACCGTCGGGCTAGATGGGGCCACACGGT  
TATGGCATCCACTCTTGGTGTGCCAAACCCACACCCTCCTGGGACACAG  
CGGCCCAGTCCGTGCTGCTGCTGTTTCAGAAACCTCAGGCCTCATGCTG  
ACCGCCTCTGAGGATGGTTCTGTACGGCTCTGGCAGGTTCTTAAGGAAG  
CAGATGACACATGTATACCAAGGAGTTCTGCAGCCGTCACTGCTGTGGC  
TTGGGCACCAGATGGTTCCATGGCAGTATCTGGAAATCAAGCTGGGGAA  
CTAATCTTGTGGCAGGAAGCTAAGGCTGTGGCCACAGCACAGGCTCCAG  
GCCACATTGGTGCTCTGATCTGGTCCTCGGCACACACCTTTTTTTGTCCT  
CAGTGCTGATGAGAAAATCAGCGAGTGGCAAGTGAAACTGCGGAAGGGT  
TCGGCACCCGGAAATTTGAGTCTTCACCTGAACCGAATTCTACAGGAGG  
ACTTAGGGGTGCTGACAAGTCTGGATTGGGCTCCTGATGGTCACTTTCT  
CATCTTGGCCAAAGCAGATTTGAAGTTACTTTGCATGAAGCCAGGGGAT  
GCTCCATCTGAAATCTGGAGCAGCTATACAGAAAATCCTATGATATTGT  
CCACCCACAAGGAGTATGGCATATTTGTCCTGCAGCCCAAGGATCCTGG  
AGTTCTTTCTTTCTTGAGGCAAAGGAATCAGGAGAGTTTGAAGAGAGG  
CTGAACTTTGATATAAACTTAGAGAATCCTAGTAGGACCCTAATATCGA  
TAACTCAAGCCAAACCTGAATCTGAGTCCTCATTTTTTGTGTGCCAGCTC

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**FIGURE 1I**

TGATGGGATCCTATGGAACCTGGCCAAATGCAGCCCAGAAGGAGAATGG  
ACCACAGGTAACATGTGGCAGAAAAAGCAAACACTCCAGAAACCCAAA  
CTCCAGGGACAGACCCATCTACCTGCAGGGAATCTGATGCCAGCATGGA  
TAGTGATGCCAGCATGGATAGTGAGCCAACACCACATCTAAAGACACGG  
CAGCGTAGAAAGATTCACTCGGGCTCTGTCCAGCCCTCCATGTGCTAC  
CTGAGTTGCTGGTGACAGCTTCGAAGGACAGAGATGTTAAGCTATGGGA  
GAGACCCAGTATGCAGCTGCTGGGCCTGTTCCGATGCGAAGGGTCAGTG  
AGCTGCCTGGAACCTTGGCTGGGCGCTAACTCCACCCTGCAGCTTGCCG  
TGGGAGACGTGCAGGGCAATGTGTACTTTCTGAATTGGGAA

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**FIGURE 2A**

ATGGAGAAGCTCTGTGGGCATGTGCCTGGCCATTCAGACATCCTCTCCT  
TGAAGAACCGGTGCCTGACCATGCTCCCTGACCTCCAGCCCCTGGAGAA  
AATACATGGACATAGATCTGTCCACTCAGACATCCTTTCCTTGGAGAAC  
CAGTGTCTGACCATGCTCTCTGACCTCCAGCCCACGGAGAGAATAGATG  
GGCATATATCTGTCCACCCAGACATCCTCTCCTTGGAGAATCGGTGCCT  
GACCATGCTCCCTGACCTCCAGCCTCTGGAGAAGCTATGTGGACATATG  
TCTAGTCATCCAGACGTCCTTTCCTTGGAAAACCAATGTCTAGCTACTC  
TCCCCACTGTAAAGAGCACTGCATTGACCAGCCCCTTGCTCCAGGGTCT  
TCACATATCTCATAACGACACAAGCTGATCTGCATAGCCTGAAAACCTAGC  
AACTGCCTGCTCCCTGAGCTTCCTACCAAGAAGACTCCATGTTTCTCTG  
AGGAACTAGACCTTCCACCTGGACCCAGGGCCCTGAAATCCATGTCTGC  
TACAGCTCAAGTCCAGGAAGTAGCCTTGGGTCAATGGTGTGTCTCCAAA  
GAAAAGGAATTTCAAGAAGAAGAAAGCACAGAAGTCCCRATGCCTTTGT  
ACAGTCTAAGCTTGGAAGAAGAAGAAGTGGAGGCACCGGTCTTAAAACT  
CACATCTGGAGACTCTGGCTTTCATCCTGAAACCACTGACCAGGTCCTT  
CAGGAGAAGAAGATGGCTCTCTTGACCTTACTCTGCTCTGCTCTGGCCT  
CAAATGTGAATGTGAAAGATGCATCTGACCTTACCCGGGCATCCATCCT  
TGAAGTCTGTAGTGCCCTGGCCTCCTTGAACCGGAGTTCATCCTTAAG  
GCATCTTTGTATGCTCGGCAGCAACTTAACCTCCGGGACATCGCCAATA

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**FIGURE 2B**

CAGTTCTGGCTGTGGCTGCCCTCTTGCCAGCCTGCCGCCCCCATGTACG  
ACGGTATTACTCCGCCATTGTTACCTGCCTTCAGACTGGATCCAGGTA  
GCCGAGTTCTACCAGAGCCTGGCAGAAGGGGATGAGAAGAAGTTGGTGT  
CCCTGCCTGCCTGTCTCCGAGCTGCCATGACCGACAAATTTGCCGAGTT  
TGATGAGTACCAGCTAGCTAAGTACAACCCACGGAAACATCGGTCCAAG  
AGGCGGTCCCGCCAGCCACCCCGCCCTCAAAGACAGAACGTCCATTTT  
CAGAGAGAGGGAAATGTTTTCCAAAGAGCCTTTGGCCCCCTTAAAAATGA  
ACAGATTACGTTTGAAGCAGCTTATAATGCAATGCCAGAGAAAAACAGG  
CTACCACGGTTCACTCTGAAGAAGTTGGTAGAGTATCTACATATCCACA  
AGCCTGCTCAGCACGTCCAGGCCCTGCTGGGCTACAGGTACCCAGCCAC  
CCTAGAGCTCTTTTCTCGGAGTCACCTCCCTGGGCCGTGGGAGTCTAGC  
AGAGCTGGTCAGCGGATGAAGCTCCGAAGGCCAGAGACCTGGGAGCGGG  
AGCTGAGTTTACGGGGAAACAAAGCTTCTGTGTGGGAGGAGCTCATAGA  
CAATGGGAAACTGCCCTTCATGGCCATGCTCCGGAACCTGTGTAACCTG  
CTGCGGACTGGGATCAGTGCCCGCCACCATGAACTCGTTCTCCAGAGAC  
TCCAGCATGAGAAATCTGTGGTTCACAGTCGGCAGTTTCCATTCAGATT  
CCTTAATGCTCATGACTCTATCGATAAACTTGAGGCTCAGCTCAGAAGC  
AAAGCATCACCTTCCCTTCCAATACAACATTGATGAAACGGATAATGA  
TTAGAAACTCAAAAAAAAAATAGGAGGCCTGCCAGTCGGAAGCACCTGTG

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**FIGURE 2C**

CACCCTGACGCGCCGGCAGCTTCGGGCAGCAATGACTATACCTGTGATG  
TATGAGCAGCTCAAGCGGGAGAACTGAGGCTGCACAAGGCCAGACAAT  
GGAAGTGTGATGTTGAGTTGCTGGAGCGCTATCGCCAGGCCCTGGAAAC  
AGCTGTGAACCTCTCAGTAAAGCACAACTATCCCCGATGCCTGGCCGA  
ACCTCTTGGTCTATCTCACAGATGCAAATGCCGACAGGCTCTGTCCCA  
AGAGTCACTCACAAGGGCCTCCCCTGAACTATGTGCTGCTGCTGATCGG  
AATGATGGTGGCTCGAGCCGAGCAAGTGACTGTTTGCTTGTGTGGGGGA  
GGATTTGTGAAGACACCGGTACTTACAGCCGATGAAGGCATCCTGAAGA  
CTGCCATCAAACCTTCAGGCTCAAGTCCAGGAGTTAGAAGGCAATGATGA  
GTGGCCCCCTGGACACTTTTGGAAGTATCTGCTGTCTCTGGCTGTCCAA  
AGGACCCCCATTGACAGGGTCATCCTGTTTGGTCAAAGGATGGATACCG  
AGCTCCTGAAAGTAGCCAAACAGATTATCTGGCAGCATGTGAATTCCAA  
GTGCCTCTTTGTTGGTGTCTCCTACAGAAAACACAGTACATATCACCA  
AATTTGAATCCCAACGATGTGACGCTCTCAGGCTGCACTGACGGGATCC  
TGAAATTCATTGCCGAACATGGAGCCTCTCGTCTCCTGGAACATGTGGG  
ACAACTAGATAAACTATTCAAGATCCCCCACCACCAGGAAAGACACAG  
GCACCGTCTCTCCGGCCGCTGGAGGAGAACATCCCTGGTCCCTTGGGTC  
CTATTTCCCAGCATGGATGGCGCAATATCCGGCTTTTCATTTTCATCCAC  
TTTCCGTGACATGCATGGGGAGCGAGATTTGCTGATGAGATCTGTTCTG

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**FIGURE 2D**

CCCGCACTGCAGGCCAGAGTGTTCCCCACCGCATCAGTCTTCACGCCA  
TTGACCTGCGCTGGGGTATCACAGAGGAAGAGACCCGCAGGAACAGACA  
ACTGGAAGTGTGCCTTGGGGAGGTGGAGAACTCACAGCTGTTTCGTGGGG  
ATTCTGGGCTCCCGCTATGGCTACATTCCCCCAGCTATGATCTTCCTG  
ATCATCCCCACTTTCCTGAGACCCATGAGTACCCTTCAGGGCGATCCGT  
GACAGAGATGGAGGTGATGCAATTCCTGAACCGTGGCCAACGCTCGCAG  
CCTTCGGCCCAAGCTCTCATCTACTTCCGAGATCCTGATTTCTCTAGCT  
CTGTGCCAGATGCCTGGAAACCTGACTTTATATCTGAGTCAGAAGAAGC  
TGCACATCGGGTCTCAGAGCTGAAGAGATATCTACACGAACAGAAAGAG  
GTTACCTGTCGCAGCTACTCCTGTGAATGGGGAGGTGTAGCGGCTGGCC  
GGCCCTATACTGGGGGCCTGGAGGAGTTTGGACAGTTGGTTCTCCAGGA  
TGTGTGGAGCATGATCCAGAAGCAGCACCTGCAGCCTGGGGCCCAGTTG  
GAGCAGCCAACATCCATCTCAGAAGACGATTTGATCCAGACCAGCTTTC  
AGCAGCTGAAGACCCCAACGAGTCCGGCACGGCCACGCCTTCTTCAGGA  
TACAGTGCAGCAGCTGTTGCTGCCCCATGGGAGGCTGAGCCTAGTGACT  
GGGCAGGCAGGACAGGGAAAGACTGCCTTTCTGGCATCCCTTGTGTCTG  
CCCTGAAGGTCCCTGACCAGCCCAATGAGCCCCCGTTCGTTTTCTTCCA  
CTTTGCAGCAGCCCGCCCTGACCAGTGTCTTGCTCTCAACCTCCTCAGA  
CGCCTCTGTACCCATCTGCGTCAAAAACCTGGGAGAGCTGAGTGCCCTCC

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**FIGURE 2E**

CCAGCACTTACAGAGGCCTGGTGTGGGAAC TGCAGCAGAAGTTGCTCCT  
CAAATTCGCTCAGTCGCTGCAGCCTGCTCAGACTTTGGTCCTTATCATC  
GATGGGGCAGATAAGTTGGTGGATCGTAATGGGCAGCTGATTT CAGACT  
GGATCCCCAAGTCTCTTCCGCGGCGAGTACACCTGGTGCTGAGTGTGTC  
CAGTGACTCAGGCCTGGGTGAGACCCTTCAGCAAAGTCAGGGTGCTTAT  
GTGGTGGCCTTGGGCTCTTTGGTCCCATCTTCAAGGGCTCAGCTTGTGA  
GAGAAGAGCTAGCACTGTATGGGAAACGACTGGAGGAGTCACCTTTTAA  
CAACCAGATGCGGCTGCTGCTGGCAAAGCAGGGTTCAAGCCTGCCATTG  
TACCTGCACCTTGTCAC T GACTACCTGAGGCTCTTCACACTGTATGAAC  
AGGTGTCTGAGAGACTTCGAACCCTGCCCCGCCACTCTCCC ACTGCTCTT  
GCAGCACATCCTGAGCACCTTGGAGCAAGAACATGGCCATGATGTCCTT  
CCTCAGGCTTTGACTGCCCTTGAGGTCACACGAAGTGGTCTGACTGTGG  
ACCAGCTACATGCAATCCTGAGCACATGGCTGATCTTGCCCAAGGAGAC  
TAAGAGCTGGGAAGAAGTGCTGGCTGCCAGTCACAGTGGA AACCTTTC  
CCCTTG TGTCCATTTGCCTACCTTG TCCAGAGTCTACGCAGTTTACTAG  
GGGAGGGCCCAGTGGAGCGCCCTGGTGCCCGTCTCTGCCTCTCTGATGG  
GCCCCTGAGGACAACAATTAAACGTCGCTATGGGAAAAGGCTGGGGCTA  
GAGAAGACTGCGCATGTCCTCATTGCAGCTCACCTCTGGAAGACGTGTG  
ATCCTGATGCCTCGGGCACCTTCCGAAGTTGCCCTCCTGAGGCTCTGAA

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**FIGURE 2F**

AGATTTACCTTACCACCTGCTCCAGAGCGGGAACCATGGTCTCCTTGCC  
GAGTTTCTTACCAATCTCCATGTGGTTGCTGCATATCTGGAAGTGGGTC  
TAGTCCCCGACCTCTTGGAGGCTCATGTGCTCTATGCTTCTTCAAAGCC  
TGAAGCCAACCAGAAGCTCCCAGCGGCAGATGTTGCTGTTTTCCATACC  
TTCCTGAGACAACAGGCTTCACTCCTTACCCAGTATCCTTTGCTCCTGC  
TCCAGCAGGCAGCTAGCCAGCCTGAAGAGTCACCTGTTTGCTGCCAGGC  
CCCCCTGCTCACCCAGCGATGGCACGACCAGTTCACACTGAAATGGATT  
AATAAACCCCAGACCCTGAAGGGTCAGCAAAGCTTGTCTCTGACAATGT  
CCTCATCCCCAACTGCTGTGGCCTTCTCCCCGAATGGGCAAAGAGCAGC  
TGTGGGGACCGCCAGTGGGACAATTTACCTGTTGAACTTGAAAACCTGG  
CAGGAGGAGAAGGCTGTGGTGAGTGGCTGTGACGGGATTTCTCTTTTG  
CATTCCTTTCGGACACTGCCCTTTTCCTTACTACCTTCGACGGGCACCT  
AGAGCTTTGGGACCTGCAACATGGTTGTTGGGTGTTTCAGACCAAGGCC  
CACCAGTACCAAATCACTGGCTGCTGCCTGAGCCCAGACCGCCGCCTGC  
TGGCCACTGTGTGTTTGGGAGGATACCTAAAGCTGTGGGACACAGTCCG  
AGGACAGCTGGCTTTTCAGTACACCCATCCAAAGTCTCTCAACTGCGTT  
GCCTTCCACCCAGAGGGGCAGGTGGTAGCCACAGGCAGCTGGGCTGGCA  
GCATTACCTTCTTCCAGGCAGATGGACTCAAAGTCACCAAGGAACTAGG  
GGCCCCCGGACCCTCTGTCTGTAGTTTGGCATTCAACAAACCTGGGAAG

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**FIGURE 2G**

ATTGTGGCTGTGGGCCGGATAGATGGGACAGTGGAGCTGTGGGCCTGGC  
AAGAGGGTGCCCGGCTGGCGGCCTTCCCTGCACAGTGTGGCTGTGTCTC  
TGCTGTTCTTTTCTTG CATGCTGGAGACCGGTTCTTGACTGCTGGAGAA  
GATGGCAAGGCTCAGTTATGGTCAGGATTTCTTGGCCGGCCCAGGGGTT  
GCCTGGGCTCTCTTCCTCTTTCTCCTGCACTCTCGGTGGCTCTCAACCC  
AGACGGTGACCAGGTGGCTGTTGGGTACCGAGAAGATGGCATTAACATC  
TACAAGATTTCTTCAGGTTCCCAGGGGCCTCAGCATCAAGAGCTAAATG  
TGGCGGTGTCTGCACTGGTGTGGCTGAGCCCTAGTGTTTTGGTGAGTGG  
TGCAGAAGATGGATCCCTGCATGGTTGGATGTTCAAGGGAGACTCCCTT  
CATTCCTGTGGCTGTTGTCGAGATAACCAGAAGCCTGTGCTGGGACTGG  
CTGCCTCCCGGGAACATCATGGCTGCTGCCTCAGAGGACTTCACTGTGAG  
ACTGTGGCCCAGACAGCTGCTGACACAGCCACATGTGCATGCGGTAGAG  
TTGCCCTGTTGTGCTGAACTCCGGGGACACGAGGGGCCAGTGTGCTGCT  
GTAGCTTCAGCCCTGATGGAGGCATCTTGGCCACAGCTGGCAGGGATCG  
GAATCTCCTTTGCTGGGACATGAAGATAGCCCAAGCCCCTCTCCTGATT  
CACACTTTCTCGTCCTGTCATCGTGACTGGATCACTGGCTGTGCGTGGA  
CCAAAGACAACATCCTGGTCTCCTGCTCGAGTGATGGCTCTGTGGGACT  
CTGGAACCCAGAGGCAGGGCAGCAACTTGGCCAGTTCTCAGGCCACCAG  
AGTGCCGTGAGCGCCGTGGTTGCTGTGGAGGAACACATTGTATCTGTGA

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**FIGURE 2H**

GCCGAGATGGGACCTTGAAAGTGTGGGACCATCAGGGTGTGGAGCTGAC  
CAGCATCCCTGCCCATTCCGGACCCATCAGCCAGTGTGCAGCTGCTCTG  
GAGCCCCGCCCAGGGGGACAGCCTGGATCAGAGCTTCTGGTGGTGA CTG  
TTGGACTAGATGGGGCCACAAAGTTGTGGCATCCCCTGTTGGTGTGCCA  
AATACGTACTCTCCAGGGACACAGTGGCCCAGTCACAGCAGCTGCTGCT  
TCAGAGGCCTCAGGCCTCCTGCTGACCTCAGATGATAGCTCTGTACAGC  
TCTGGCAGATACCAAAGGAAGCAGATGATTCATACAAACCTAGGAGTTC  
TGTGGCCATCACTGCTGTGGCATGGGCACCGGATGGTTCTATGGTGGTG  
TCCGGAAATGAAGCCGGGGA ACTGACACTGTGGCAGCAAGCCAAGGCTG  
TGGCTACCGCACAGGCTCCAGGCCGCGTCAGTCACCTGATCTGGTACTC  
GGCAAATTCATTCTTCGTTCTCAGTGCTAATGAAAACGTCAGCGAGTGG  
CAAGTGGGACTGAGGAAAGGTTCAACGTCCACCAGTTCCAGTCTTCATC  
TGAAGAGAGTTCTGCAGGAGGACTGGGGAGTCTTGACAGGTCTGGGTCT  
GGCCCCTGATGGCCAGTCTCTCATCTTGATGAAAGAGGATGTGGAATTA  
CTAGAGATGAAGCCTGGGTCTATTCCATCTTCTATCTGCAGGAGGTATG  
GAGTACATTCTTCAATACTGTGCACCAGCAAGGAGTACGGCTTGTTCTA  
CCTGCAGCAGGGGGACTCCGGATTACTTTCTATATTGGAGCAAAAGGAG  
TCAGGGGAGTTTGAAGAGATCCTGGACTTCAATCTGAACTTAAATAATC  
CTAATGGGTCCCCAGTATCAATCACTCAGGCCAAACCTGAGTCTGAATC

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**FIGURE 2I**

ATCCCTTTTGTGCGCCACCTCTGATGGGATGCTGTGGAACCTTATCTGAA  
TGTACCTCAGAGGGAGAATGGATCGTAGATAACATTTGGCAGAAAAAAG  
CAAAAAACCTAAAACTCAGACTCTGGAGACAGAGTTGTCCCCGCACTC  
AGAGTTGGATTTTTCCATTGATTGCTGGATTGATCCCACAAATTTAAAG  
GCACAGCAGTGTA AAAAGATCCACTTGGGCTCTGT CACAGCCCTCCATG  
TGCTTCCGGGATTGCTGGTGACAGCTTCGAAGGACAGAGATGTTAAGCT  
GTGGGAGAGACCCAGTATGCAGCTGCTGGGCTTGTTCCGATGTGAAGGG  
CCAGTGAGCTGTCTGGAACCTTGGATGGAGCCCAGCTCTCCCCTGCAGC  
TTGCTGTGGGAGACACACAAGGAACTTGTATTTTCTATCTTGGGAA

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FIGURE 3A

MEKLHGHVSAHPDILSLENRCLAMLPDLQPLEKHLQHVVSTHSDILSLKN  
QCLATLPDLKTMEKPHGYVSAHPDILSLENQCLATLSDLKTMEKPHGHV  
SAHPDILSLENRCLATLPSLKSTVSASPLFQSLQISHMTQADLYRVNNS  
NCLLSEPPSWRAQHFSKGLDLSTCPIALKSISATETAQEATLGRWFDSE  
EKKGAETQMPSYSLSLGEEEEVEDLAVKLTSGDSESHPEPTDHVLQEEK  
MALLSLLCSTLVSEVNMNNTSDPTLAAIFEICRELALLEPEFILKASLY  
ARQQLNVRNVANNILAIAAFLPACRPHLRRYFCAIVQLPSDWIQVAELY  
QSLAEGDKNKLVPLPACLRRTAMTDKFAQFDEYQLAKYNPRKHKRAKRHR  
RPPRSPGMEPPFSHRCFPRYIGFLREEQRKFEEKAGDTVSEKKNPPRFTL  
KKLVQRLHIHKPAQHVQALLGYRYPSNLQLFSRSRLPGPWDSSRAGKRM  
KLSRPETWERELSLRGNKASVWEELIENGKLPFMAMLRNLCNLLRVGIS  
SRHHELILQRLQHGSVIHSRQFPFRFLNAHDAIDALEAQLRNQALPFP  
SNITLMRRILTRNEKNRPRRRFLCHLSRQQLRMAMRIPVLYEQLKREKL  
RVHKARQWKYDGEMLNRYRQALETAVNLSVKHSLPLLPGRTVLVYLTDA  
NADRLCPKSNPQGPPPLNYALLLIGMMITRAEQVDVVLCCGDTLKTAVLK  
AEEGILKTAIKLQAQVQEFDENDGWSLNTFGKYLLSLAGQRPVDRVIL  
LGQSMDDGMINVAKQLYWQRVNSKCLFVGILLRRVQYLSTDLPNDVTL  
SGCTDAILKFIAEHGASHLLEHVGQMDKIFKI PPPPGKTGVQSLRPLEE  
DTPSPLAPVSQQGWR SIRLFISSTFRDMHGERDLLLLRSVLPALQARAAP

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FIGURE 3B

HRISLHGIDLRWGVTEEEETRRNRQLEVCLGEVENAQLFVGILGSRYGYI  
PPSYNLPDHPHFHWAQQYPSGRSVTEMEVMQFLNRNQRLQPSAQALIYF  
RDSSFLSSVPDAWKSDFVSESEEAAAXRISELKSYLSRQKGITCRRYPCE  
WGGVAAGRPHYVGGLEEFQQLVLQDVWNMIQKLYLQPGALLEQPVSI PDD  
DLVQATFQQLQKPPSPARPRLLQDTVQXLMLPHGRLSLVTGQSGQGKTA  
FLASLVSALQAPDGAKVAXLVFFHFSGARPDQGLALTLLRRLCTYL RGQ  
LKEPGALPSTYRSLVWELQQRLLPKSAESLHPGQTQVLIIDGADRLVDQ  
NGQLISDWIPKKLPRCVHLVLSVSSDAGLGETLEQSQGAHV LALGPLEA  
SARARLVREELALYGKRLEESPFNNQMRLLLVKRESGRPLYLRLVTDHL  
RLFTLYEQVSERLR TL PATVPLLLQHILSTLEKEHGP DVLPQALTALEV  
TRSGLTVDQLHGVLSVWRTL PKGTKSWEEAVAAGNSGDPYPMGPFACLV  
QSLRSLLGEGPLERPGARLCLPDGPLRTAAKRCYGKRPGLEDTAHILIA  
AQLWKTC DADASGTFRSCPPEALGDL PYHLLQSGNRGLLSKFLTNLHVV  
AAHLELGLVSRLLEAHALYASSVPKEEQKLPEADVAVFRTFLRQQASIL  
SQYPRLLPQQAANQPLDSPLCHQASLLSRRWHLQH TLRWLNKPR TMKNQ  
QSSSLSLAVSSSPTAVAFSTNGQRAAVGTANGTVYLLDLRTWQEEKSVV  
SGCDGISACLFLSDDTLFLTAFDGLLELWDLQHGC RVLQTKAHQYQITG  
CCLSPDCRLLATVCLGGCLKLWDTV RGQLAFQHTYPKSLNCVAFHPEGQ  
VIATGSWAGSISFFQVDGLKVTKDLGAPGASIRTLAFNVP GGVVAVGRL

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**FIGURE 3C**

DSMVELWAWREGARLAAPPAHHGFVAAALFLHAGCQLLTAGEDGKVQVW  
SGSLGRPRGHLGSLSLSPALSVALSPDGDRVAVGYRADGIRIYKISSGS  
QGAQQQALDVAVSALAWLSPKVLVSGAEDGSLQGVALKECSLQSLWLLS  
RFQKPVLGLATSQELLASASEDFTVQLWPRQLLTRPHKAEDFPCGTEL  
GHEGPVSCCSFSTDGGS LATGGRDRSLLCWDVRTPKTPVLIHSFPACHR  
DWVTGCAWTKDNLLISCSSDGSVGLWDPESGQRLGQFLGHQSAVSAVAA  
VEEHVVS VSRDGT LKVWDHQGVELTSIPAHSGPI SHCAAAMEPRAAGQP  
GSELLVVTVGLDGATRLWHPLLVCQHTLLGHSGPVRAAAVSETSGLML  
TASEDGSVRLWQVPKEADDTCI PRSSAAVTAVAWAPDGSMASVGNQAGE  
LILWQEAKAVATAQAPGHIGALIWSSAHTFFVLSADEKISEWQVKLRKG  
SAPGNLSLHLNRILQEDLGVLTS LDWAPDGHFLILAKADLKL LCMKPGD  
APSEIWSSYTENPMILSTHKEYGIFVLQPKDPGVLSFLRQKESGEFEER  
LNFDINLENPSRTLISITQAKPESESSFLCASSDGILWNLAKCSPEGEW  
TTGNMWQKKANTPETQTPGTD PSTCRES DASMDSDASMDSEPTPHLKTR  
QRRKI HSGSVTALHVLPELLVTASKDRDVKLWERPSMQLLGLFRCEGSV  
SCLEPWLGANSTLQLAVGDVQGNVYFLNWE

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FIGURE 4A

MEKLCGHVPGHSDILSLKNRCLTMLPDLQPLEKIHGHRSVHSDILSLEN  
QCLTMLSDLQPTERIDGHISVHPDILSLENRCLTMLPDLQPLEKLCGHM  
SSHDPVLSLENQCLATLPTVKSTALTSPLLQGLHISHTAQADLHSLKTS  
NCLLPELPTKKTPCFSEELDLP GP PRALKSMSATAQVQEVALGQWCVSK  
EKEFQEEESTEVPMPLYSLSL EEEEEVEAPVLKLTSGDSGFHPETTDQVL  
QEKKMALLTLLCSALASNVNVKDASDLTRASILEVCSALASLEPEFILK  
ASLYARQQNLNRDIANTVLAVAALLPACRPHVRRYSAIVHLPSDWIQV  
AEFYQSLAEGDEKKLVSLPACLRAAMTDKFAEFDEYQLAKYNPRKHRSK  
RRSRQPPRPQKTERPFSERGKCFPKSLWPLKNEQITFEAAYNAMPEKNR  
LPRFTLKKLV EYLHIHKPAQH VQALLGYRYPATLELFSRSHLP GP WESS  
RAGQRMKLRRPETWERELSLRGNKASVWEELIDNGKLPFMAMLRNLCNL  
LRTGISARHHELVLQRLQHEKSVVHSRQFPFRFLNAHDSIDKLEAQLRS  
KASPFPSNTTLMKRIMIRNSKKNRRPASRKHLCTLTRRQLRAAMTIPVM  
YEQLKREKLRLHKARQWNC DV ELLERYRQALETAVNLSVKHNLS PMPGR  
TLLVYLTDANADRLCPKSHSQGPPLNYVLLLLIGMMVARAEQVTVCLCGG  
GFVKTPVLTAD EGILKTAIKLQAQVQELEGNDEWPLDTFGKYLLSLAVQ  
RTPIDRVILFGQRM DTELLKVAKQIIWQH VNSKCLFVG VLLQKTQYISP  
NLNPNDVTLSGCTDGILKFIAEHGASRLLEHVGQLDKLFKIPPPGKTQ  
APSLRPLEENIPGPLGPISQHGWRNIRLFISSTFRDMHGERDLLMRSVL

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FIGURE 4C

IVAVGRIDGTVELWAWQEGARLAAFPAQCGCVSAVLFLHAGDRFLTAGE  
DGKAQLWSGFLGRPRGCLGSLPLSPALSVALNPDGDQVAVGYREDGINI  
YKISSGSQGPQHQELNVAVSALVWLSPSVLVSGAEDGSLHGWMFKGDSL  
HSLWLLSRYQKPVLGLAASRELMAAASEDFTVRLWPRQLLTQPHVHAVE  
LPCCAELRGHEGPVCCCSFSPDGGILATAGRDRNLLCWDMKIAQAPLLI  
HTFSSCHRDWITGCAWTKDNILVSCSSDGSVGLWNPEAGQQLGQFSGHQ  
SAVSAVVAVEEHIVSVSRDGTKVWDHQGVELTSIPAHSGPISQCAAAL  
EPRPGGQPGSELLVTVGLDGATKLWHPLLVCQIRTLOGHSGPVTAAAA  
SEASGLLLTSDDSSVQLWQIPKEADDSYKPRSSVAITAVAWAPDGSMVV  
SGNEAGELTLWQQAKAVATAQAPGRVSHLIWYSANSFFVLSANENVSEW  
QVGLRKGSTSTSSSLHLKRVLQEDWGVLTGLGLAPDGQSLILMKEDVEL  
LEMKPGSIPSSICRRYGVHSSILCTSKEYGLFYLQQGDSGLLSILEQKE  
SGEFEEILDFNLNLNNPNGSPVSITQAKPESESSLLCATSDGMLWNLSE  
CTSEGEWIVDNIWQKKAKKPKTQTLETELSPHSELDFSIDCWIDPTNLK  
AQQCKKIHLGSVTALHVLPGLLVTASKDRDVKLWERPSMQLLGLFRCEG  
PVSCLEPWMEPSSPLQLAVGDTQGNLYFLSWE

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[illegible]

CACGCGTCCGGGCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGG  
CCCCGGCCACCCCCGCGATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCG  
CTCCCTGCTGCGCAGCCACTACCGCGAGGTGCTGCCGCTGGCCACGTTC  
GTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGGGGACC  
CGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCCTGGTGTGCGTGCCCTG  
GGACGCACGGCCGCCCCCGCCGCCCCCTCCTTCCGCCAGGTGTCCTGC  
CTGAAGGAGCTGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCG  
CGAAGAACGTGCTGGCCTTCGGCTTCGCGCTGCTGGACGGGGCCCCGCGG  
GGGCCCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTACCTGCCCCAAC  
ACGGTGACCGACGCACTGCGGGGGAGCGGGGCGTGGGGGCTGCTGCTGC  
GCCGCGTGGGCGACGACGTGCTGGTTACCTGCTGGCACGCTGCGCGCT  
CTTTGTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCG  
CTGTACCAGCTCGGCGCTGCCACTCAGGCCCCGGCCCCCGCCACACGCTA  
GTGGACCCCGAAGGCGTCTGGGATGCGAACGGGCCTGGAACCATAGCGT  
CAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAGGAGG  
CGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGC  
GTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCTCTG  
GGCCCACCCGGGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTG  
GTGTCACCTGCCAGACCCGCCGAAGAAGCCACCTCTTTGGAGGGTGCGC

**FIGURE 5B**

TCTCTGGCACGCGCCACTCCCACCCATCCGTGGGCCGCCAGCACACGC  
GGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGT  
CCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACA  
AGGAGCAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCT  
GACTGGCGCTCGGAGGCTCGTGGAGACCATCTTTCTGGGTTCCAGGCCC  
TGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCTGCCCCAGCGCTACT  
GGCAAATGCGGCCCTGTTCCTGGAGCTGCTTGGAACCACGCGCAGTG  
CCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC  
ACCCCAGCAGCCGGTGTCTGTGCCCCGGGAGAAGCCCCAGGGCTCTGTGG  
CGGCCCCCGAGGAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCT  
CCGCCAGCACAGCAGCCCCCTGGCAGGTGTACGGCTTCGTGCGGGCCTGC  
CTGCGCCGGCTGGTGTCCCCCAGGCCTCTGGGGCTCCAGGCACAACGAAC  
GCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGC  
CAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGC  
GCTTGGCTGCGCAGGAGCCCAGGGGTGGCTGTGTTCCGGCCGCAGAGC  
ACCGTCTGCGTGAGGAGATCCTGGCCAAGTTCCTGCACTGGCTGATGAG  
TGTGTACGTCGTGAGCTGCTCAGGTCTTTCTTTTATGTCACGGAGACC  
ACGTTTCAAAGAACAGGCTCTTTTCTACCGGAAGAGTGTCTGGAGCA  
AGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCG

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[illegible]

GGAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCC  
CTGCTGACGTCCAGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGC  
CGATTGTGAACATGGACTACGTTCGTGGGAGCCAGAACGTTCCGCAGAGA  
AAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTTTCAGCGTG  
CTCAACTACGAGCGGGCGCGGCGCCCCGGCCTCCTGGGCGCCTCTGTGC  
TGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGT  
GCGGGCCCAGGACCCGCGCCTGAGCTGTACTTTGTCAAGGTGGATGTG  
ACGGGCGCGTACGACACCATCCCCAGGACAGGCTCACGGAGGTCATCG  
CCAGCATCATCAAACCCCAGAACACGTACTGCGTGCGTCGGTATGCCGT  
GGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCAC  
GTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTC  
ACCTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAG  
CTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGC  
TTCATGTGCCACCACGCCGTGCGCATCAGGGGCAAGTCCTACGTCCAGT  
GCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTGCAGCCT  
GTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTTCGGCGGGAC  
GGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACC  
TCACCCACGCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGA  
GTATGGCTGCGTGGTGAACTTGCGGAAGACAGTGGTGAACCTTCCTGTGA

**FIGURE 5D**

GAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTTCAGATGCCGGCCCCACG  
GCCTAT

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FIGURE 6A

HASGQRCVLLRTWEALAPATPAMPRAPRCRAVRSLLRSHYREVLPLATF  
VRR LGPQGWRLVQRGDPAAFRALVAQCLVCVPWDARPPPAAPSFRQVSC  
LKELVARVLQRLCERGAKNVLAFGFALLDGARGGPPEAFTTSVRSYLPN  
TVTDALRGSGAWGLLLRRVGDDVLVHLLARCALFVLVAPSCAYQVCGPP  
LYQLGAATQARPPPHASGPRRRLGCERAWNHSVREAGVPLGLPAPGARR  
RGGSASRSLPLPKRPRRGAAPEPERTFVGQGSWAHPGRTRGPSDRGFCV  
VSPARPAEEATSLEGALSGTRHSHPSVGRQHHAGPPSTSRPPRPWDTPC  
PPVYAETKHFLYSSGDKEQLRPSFLLSSLRPSLTGARRLVETIFLGSRP  
WMPGTPRRLPRLPQRYWQMRPLFLELLGNHAQCPYGVLLKTHCPLRAAV  
TPAAGVCAREKPGQSVAAPEEEDTDPRRLVQLLRQHSSPWQVYGFVRAC  
LRR LVPPGLWGSRHNERFLRNTKKFISLGKHAKLSLQELTWKMSVRDC  
AWLRRSPGVGCVPAAEHRLREEILAKFLHWLMSVYVVELLRSFFYVTET  
TFQKNRLFFYRKSVWSKLQSIGIRQHLKRVQLRELSEAEVRQHREARPA  
LLTSRLRFIPKPDGLRP IVNMDYVVGARTFRREKRAERLTSRVKALFSV  
LNYERARRPGLLGASVLGLDDIHRAWRTFVLRVRAQDPPPELYFVKVDV  
TGAYDTIPQDRLTEVIASIIKPQNTYCVRRYAVVQKAAHGHVRKAFKSH  
VSTLTDLQPYMRQFVAHLQETSPLRDAVVIEQSSSLNEASSGLFDVFLR  
FMCHHAVRIRGKSYVQCQGI PQGSILSTLLCSLCYGD MENKLFAGIRRD

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**FIGURE 6B**

GLLLRLVDDFLLVTPHLTHAKTFLRTLVRGVPEYGCVVNLRKTVVNFVPV  
EDEALGGTAFVQMPAHGL

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FIGURE 7

TCCCCTGGTGCGGCCTGCTGCTGGATAACCCGGACCCTGGAGGTGCAGAGCGACT  
ACTCCAGCTATGCCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCGGCT  
TCAAGGCTGGGAGGAACATGCGTCGCAAACCTCTTTGGGGTCTTGCGGCTGAAGT  
GTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCA  
ACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGC  
AGCTCCCATTTTCATCAGCAAGTTTGGAAGAACCCACATTTTTCTGCGCGTCA  
TCTCTGACACGGCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGA  
TGTCGCTGGGGGCCAAGGGCGCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGT  
GGCTGTGCCACCAAGCATTCCTGCTCAAGCTGACTCGACACCGTGTACCTACG  
TGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGCTGAGTCGGAAGCTCC  
CGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGCACTGCCCTCAG  
ACTTCAAGACCATCCTGGACTGATGGCCACCCGCCACAGCCAGGCCGAGAGCA  
GACACCAGCAGCCCTGTACGCCGGGCTCTACGTCCCAGGGAGGGAGGGGCGGC  
CCACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAGTGTTTGGCCG  
AGGCCTGCATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGT  
CCAGCCAAGGGCTGAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCT  
GGCGCTCGGCTCCACCCAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCA  
CTCCCCACATAGGAATAGTCCATCCCCTGAT

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FIGURE 8A

CCACGCGTCCGGGCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCC  
GGCCACCCCCGCGATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCT  
GCGCAGCCACTACCGCGAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGG  
GCCCCAGGGCTGGCGGCTGGTGCAGCGCGGGGACCCGGCGGCTTTCGCGCGCT  
GGTGGCCCAGTGCCCTGGTGTGCGTGCCCTGGGACGCACGGCCGCCCCCGCCGC  
CCCCCTCCTTCCGCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCCGAGTGCTGCA  
GAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGCGCTGCT  
GGACGGGGCCCGCGGGGGCCCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA  
CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGCGTGGGGGCTGCT  
GCTGCGCCGCGTGCGGCGACGACGTGCTGGTTACCTGCTGGCACGCTGCGCGCT  
CTTTGTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTA  
CCAGCTCGGCGCTGCCACTCAGGCCCCGGCCCCCGCCACACGCTAGTGGACCCCG  
AAGGCGTCTGGGATGCGAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGT  
CCCCCTGGGCCTGCCAGCCCCGGGTGCGAGGAGGCGCGGGGGCAGTGCCAGCCG  
AAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGCGCTGCCCTGAGCCGGAGCG  
GACGCCCCGTTGGGCAGGGGTCTTGGGCCCACCCGGGCAGGACGCGTGACCGAG  
TGACCGTGGTTTCTGTGTGGTGTACCTGCCAGACCCGCCGAAGAAGCCACCTC  
TTTGAGGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCATCCGTGGGCGGCCA  
GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCC  
TTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAA

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FIGURE 8B

GGAGCAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGG  
CGCTCGGAGGCTCGTGGAGACCATCTTTCTGGGTTCAGGCCCTGGATGCCAGG  
GACTCCCCGCAGGTTGCCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCT  
GTTTCTGGAGCTGCTTGGAACACGCGCAGTGCCCCCTACGGGGTGCTCCTCAA  
GACGCACTGCCCCGCTGCGAGCTGCGGTACCCCCAGCAGCCGGTGTCTGTGCCCCG  
GGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGACACAGACCCCCG  
TCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTACGGCTT  
CGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA  
CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCA  
TGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGC  
TTGGCTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCT  
GCGTGAGGAGATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCTGT  
CGAGCTGCTCAGGTCTTTCTTTTATGTCACGGAGACCACGTTTCAAAGAAGCAG  
GCTCTTTTTTCTACCGGAAGAGTGTCTGGAGCAAGTTGCAAAGCATTGGAATCAG  
ACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTTCGGAAGCAGAGGTCAGGCA  
GCATCGGGAAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCGCTTCATCCCCAA  
GCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCTGGGAGCCAGAAC  
GTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT  
CAGCGTGCTCAACTACGAGCGGGCGCGGCCCGGCCCTCCTGGGCGCCTCTGT  
GCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCG

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FIGURE 8C

GGCCCAGGACCCGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGC  
GTACGACACCATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAA  
ACCCAGAACACGTACTGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCA  
TGGGCACGTCCGCAAGGCCTTCAAGAGCCACGTCTCTACCTTGACAGACCTCCA  
GCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACCAGCCCGCTGAGGGA  
TGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTT  
CGACGTCTTCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGGCAAGTC  
CTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG  
CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGA  
CGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCAC  
CCACGCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTG  
CGTGGTGAACCTTGCGGAAGACAGTGGTGAACCTCCCTGTAGAAGACGAGGCCCT  
GGGTGGCACGGCTTTTGTTCAGATGCCGGCCACGGCCTATTCCCCTGGTGCGG  
CCTGCTGCTGGATACCCGGACCCTGGAGGTGCAGAGCGACTACTCCAGCTATGC  
CCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCGGCTTCAAGGCTGGGAG  
GAACATGCGTCGCAAACCTCTTTGGGGTCTTGCGGCTGAAGTGTCACAGCCTGTT  
TCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACAAGAT  
CCTCCTGCTGCAGGCGTACAGGTTCACGCATGTGTGCTGCAGCTCCCATTTCA  
TCAGCAAGTTTGAAGAACCCACATTTTTCCTGCGCGTCATCTCTGACACGGC  
CTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGC

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FIGURE 8D

CAAGGGCGCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCA  
AGCATTCCTGCTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGG  
GTCACTCAGGACAGCCCAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCT  
GACTGCCCTGGAGGCCGCAGCCAACCCGGCACTGCCCTCAGACTTCAAGACCAT  
CCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGAGAGCAGACACCAGCAGCC  
CTGTCACGCCGGGCTCTACGTCCCAGGGAGGGAGGGGCGGCCCACACCCAGGCC  
CGCACCGCTGGGAGTCTGAGGCCTGAGTGAGTGTTTGGCCGAGGCCTGCATGTC  
CGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCT  
GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCC  
ACCCCAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGG  
AATAGTCCATCCCCTGAT

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FIGURE 9A

HASGQRCVLLRTWEALAPATPAMPRAPCRAVRSLLRSHYREVLPLATF  
VRR LGPQGWRLVQRGDPAAFRALVAQCLVCVPWDARPPPAAPSFRQVSC  
LKELVARVLQRLCERGAKNVLAFGFALLDGARGGPPEAFTTSVRSYLPN  
TVTDALRGSGAWGLLLRRVGDDVLVHLLARCALFVLVAPSCAYQVCGPP  
LYQLGAATQARPPPHASGPRRRLGCERAWNHSVREAGVPLGLPAPGARR  
RGGSASRSLPLPKRPRRGAAPEPERTFVGQGSWAHPGRTRGPSDRGFCV  
VSPARPAEEATSLEGALSGTRHSHPSVGRQHHAGPPSTSRPPRPWDTPC  
PPVYAETKHFLYSSGDKEQLRPSFLLSSLRPSLTGARRLVETIFLGSRP  
WMPGTPRRLPRLPQRYWQMRPLFLELLGNHAQCPYGVLLKTHCPLRAAV  
TPAAGVCAREKPGQSVAAPEEEDTDPRRLVQLLRQHSSPWQVYGFVRAC  
LRRLVPPGLWGSRHNERRFLRNTKKFISLGKHAKLSLQELTWKMSVRDC  
AWLRRSPGVGCVPAAEHRLREEILAKFLHWLMSVYVVELLRSFFYVTET  
TFQKNRLFFYRKS VWSKLQSIGIRQHLKRVQLRELSEAEVRQHREARPA  
LLTSRLRFIPKPDGLRP IVNMDYVVGARTFRREKRAERLTSRVKALFSV  
LNYERARRPGLLGASVLGLDDIHRAWRTFVLRVRAQDPPPELYFVKVDV  
TGAYDTIPQDRLTEVIASIIKPQNTYCVRRYAVVQKAAHGHVRKAFKSH  
VSTLTDLQPYMRQFVAHLQETSPLRDAVVIEQSSSLNEASSGLFDVFLR  
FMCHHAVRIRGKSYVQCQGIPQGSILSTLLCSLCYGD MENKLFAGIRRD  
GLLLRLVDDFLLVTPHLTHAKTFLRTLVRGVPEYGCVVNLRKTVVNF PV

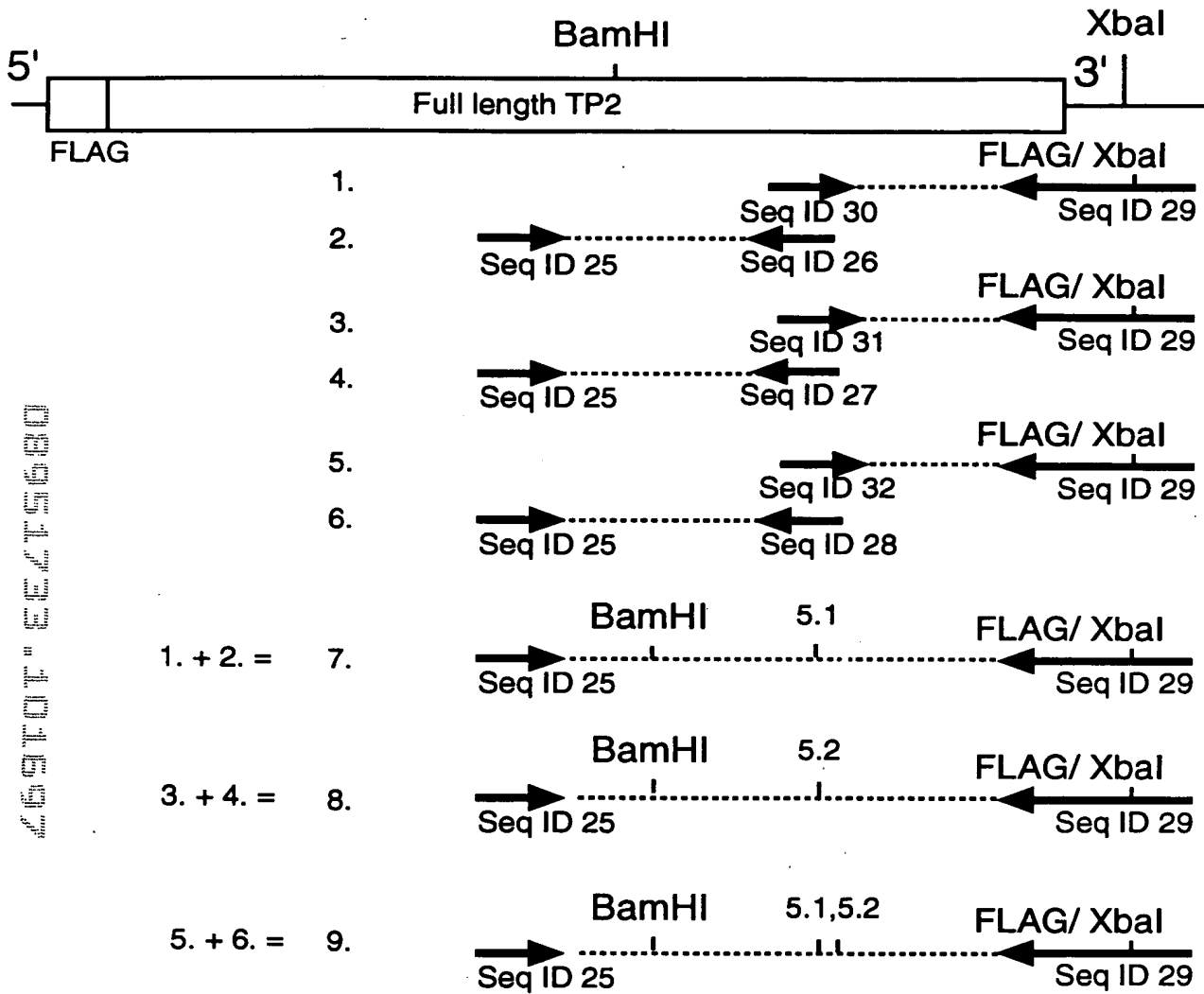
0951733.101697

**FIGURE 9B**

EDEALGGTAFVQMPAHGLFPWCGLLLDTRTLEVQSDYSSYARTSIRASL  
TFNRGFKAGRNMRRKLEFVLRRLKCHSLFLDLQVNSLQTVCTNIYKILLL  
QAYRFHACVLQLPFHQVWKNPTFFLRVISDTASLCYSILKAKNAGMSL  
GAKGAAGPLPSEAVQWLCHQAFLCLKLTRHRVTYVPLLGSLRTAQTQLSR  
KLP GTT LTALEAAANPALPSDFKTILD

08954733 .101697

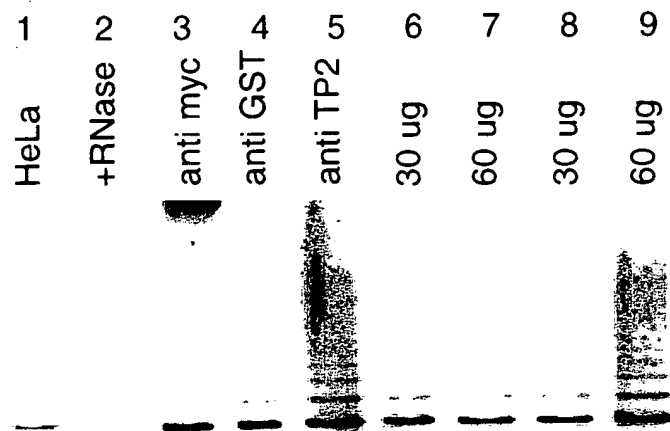
FIG. 10



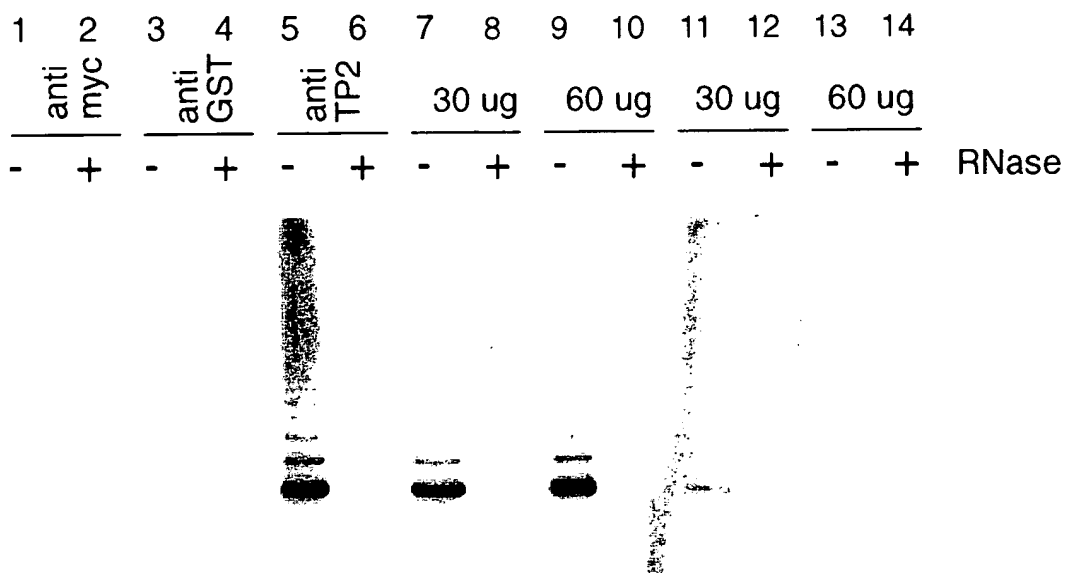
0851733-101697

FIG. 11

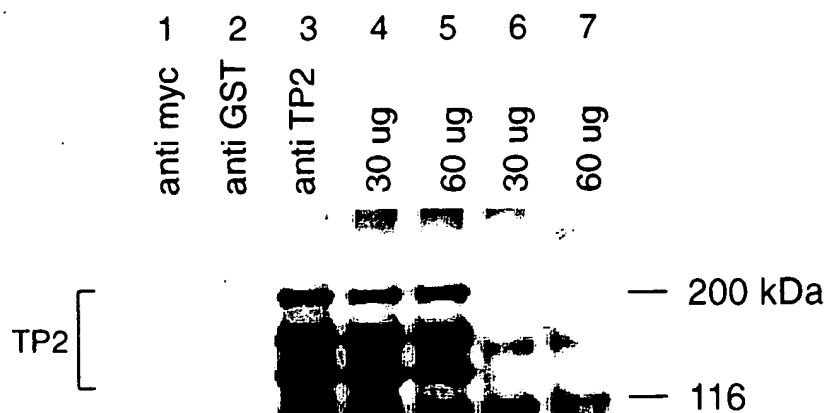
A



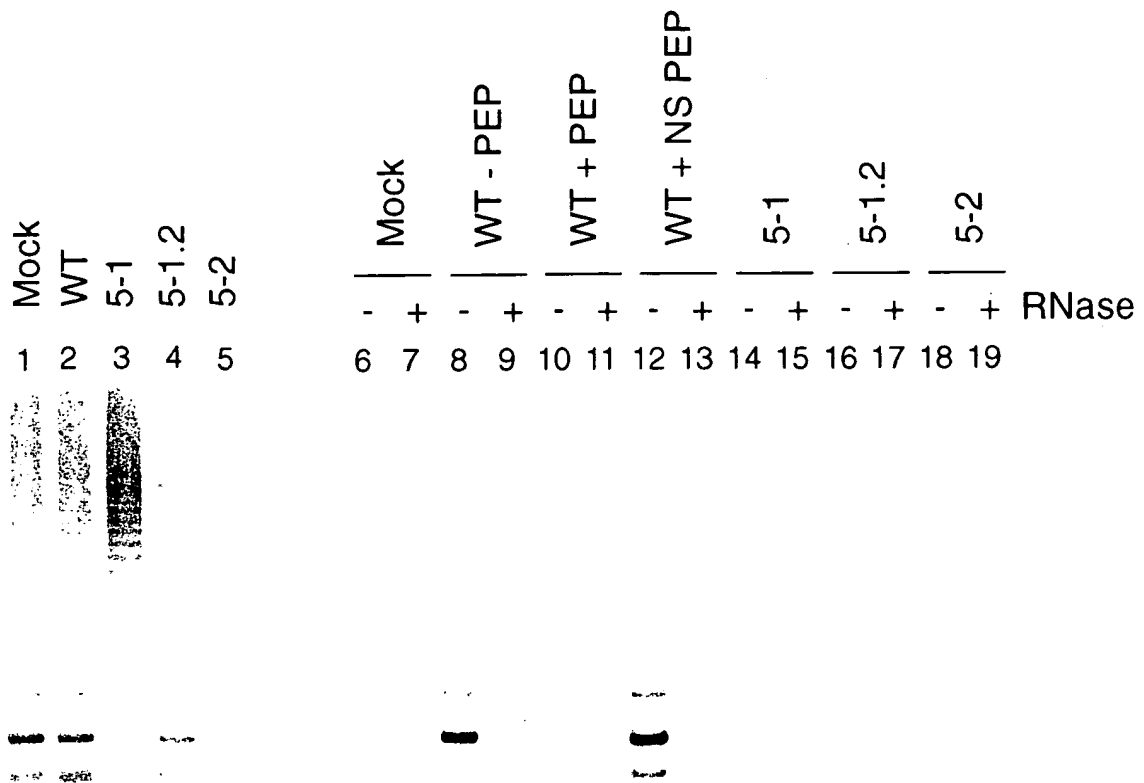
B



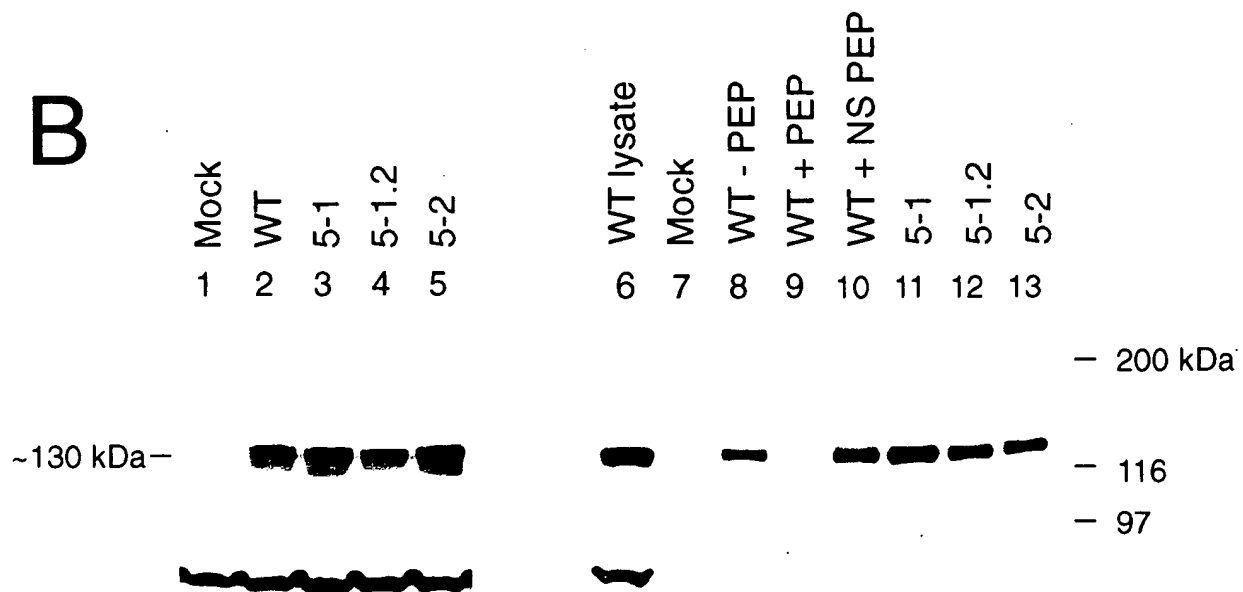
C



A



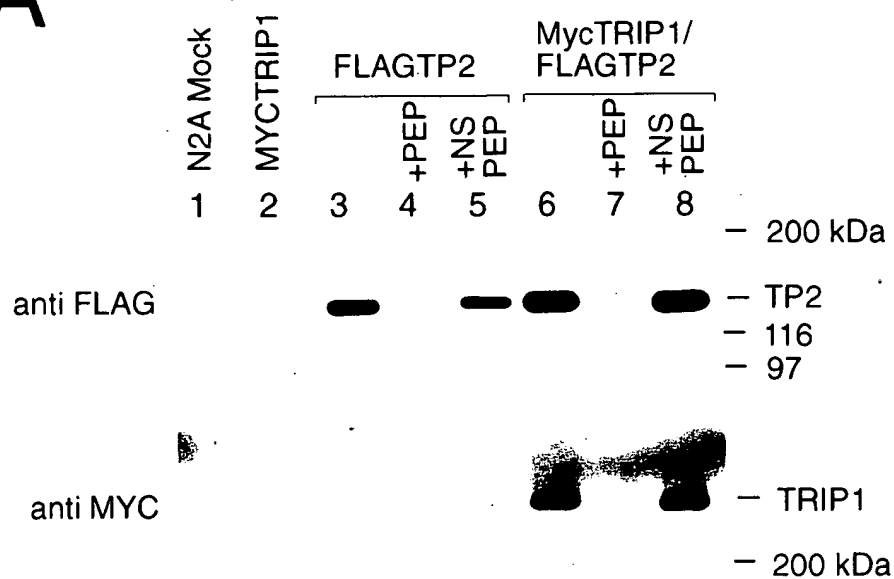
# B





**FIG. 13**

**A**



**B**

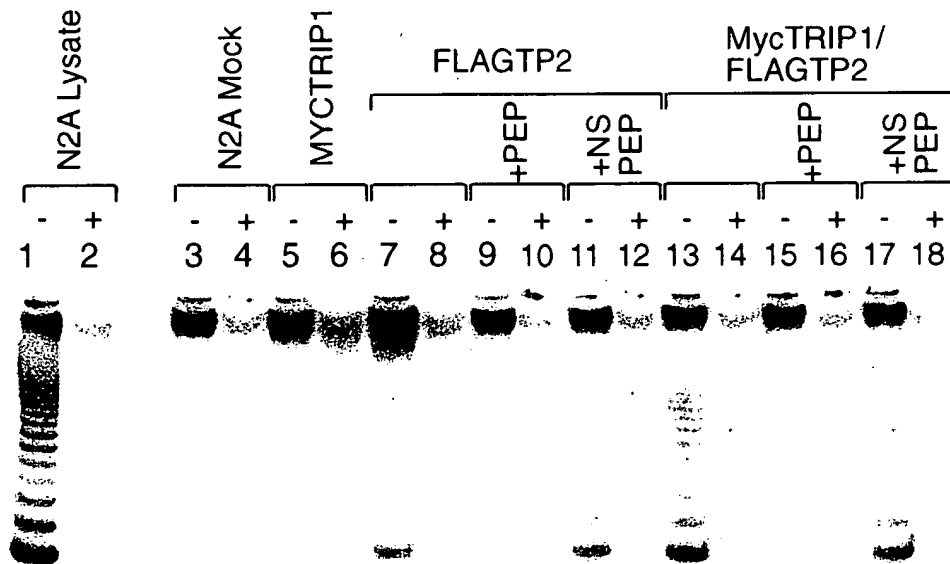


FIG. 14

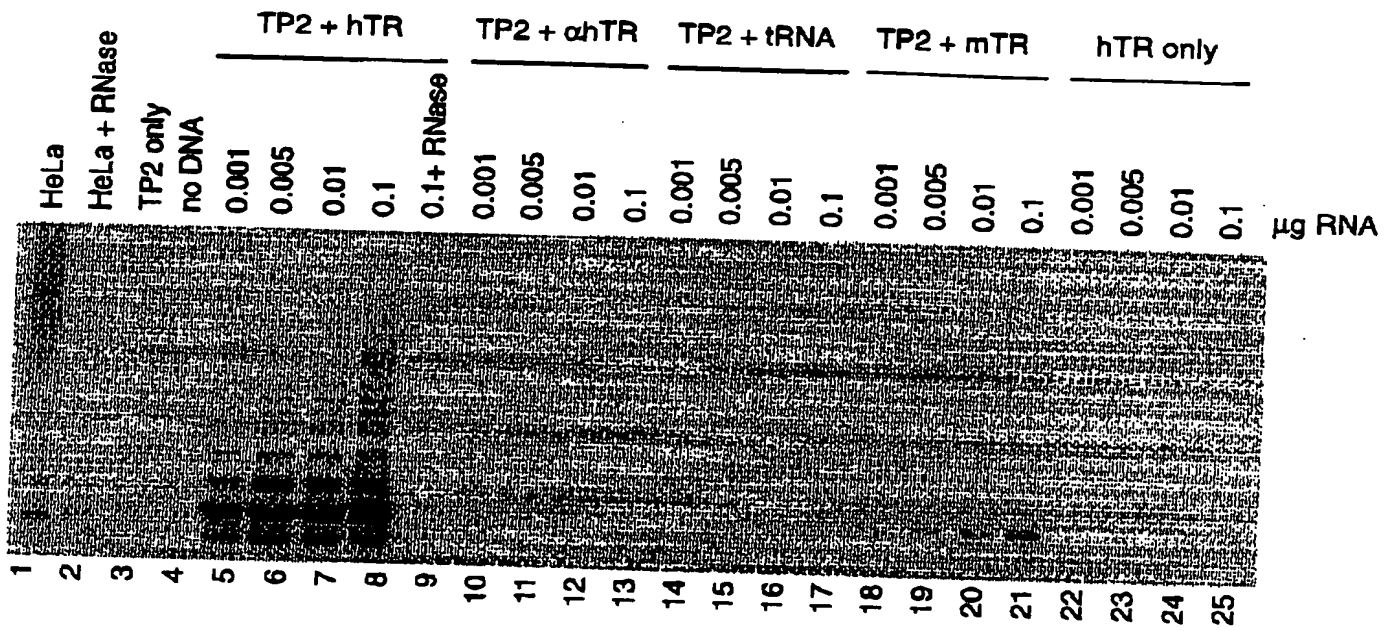


FIG. 15

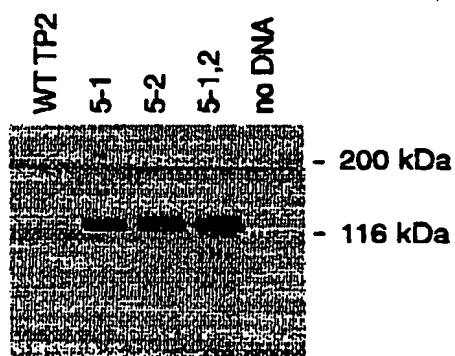
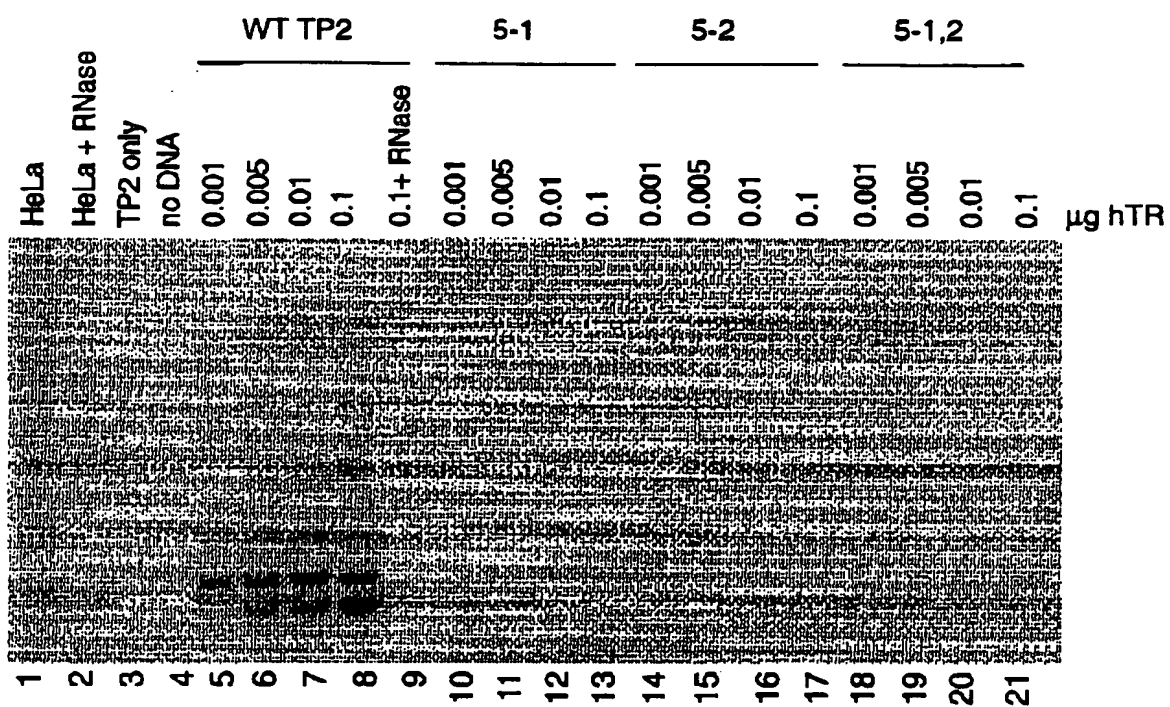
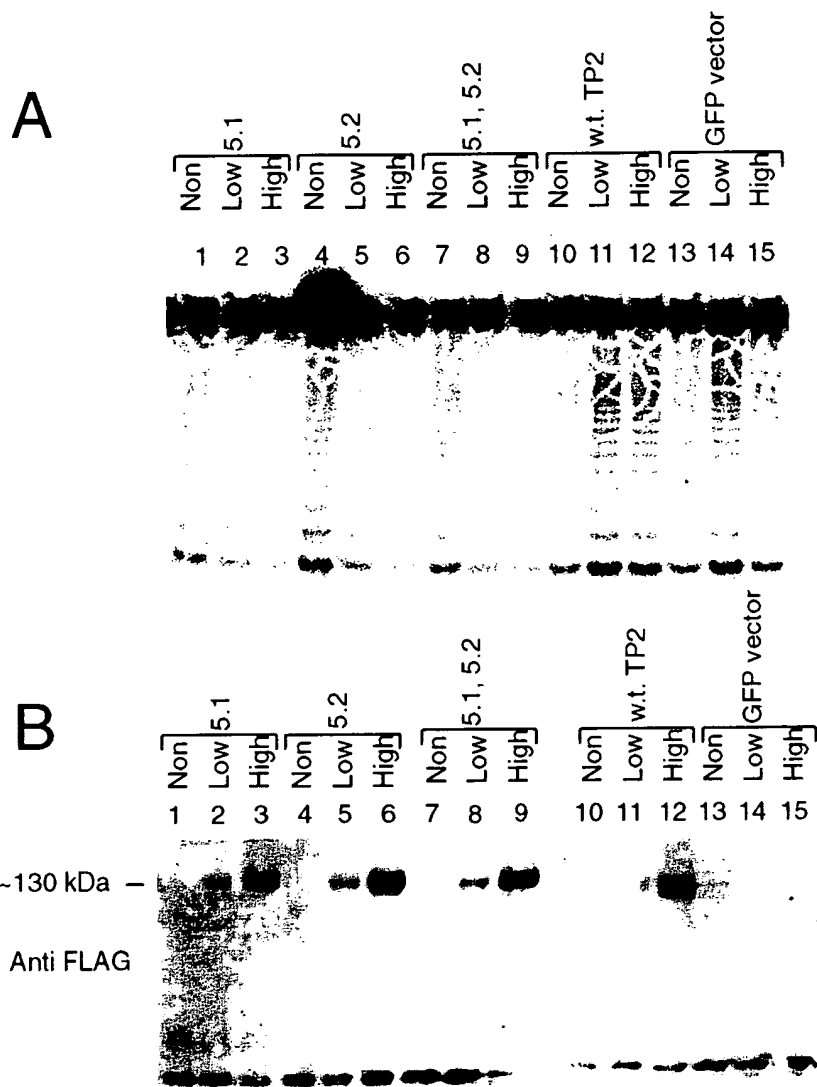


FIG. 16



**FIG. 17**

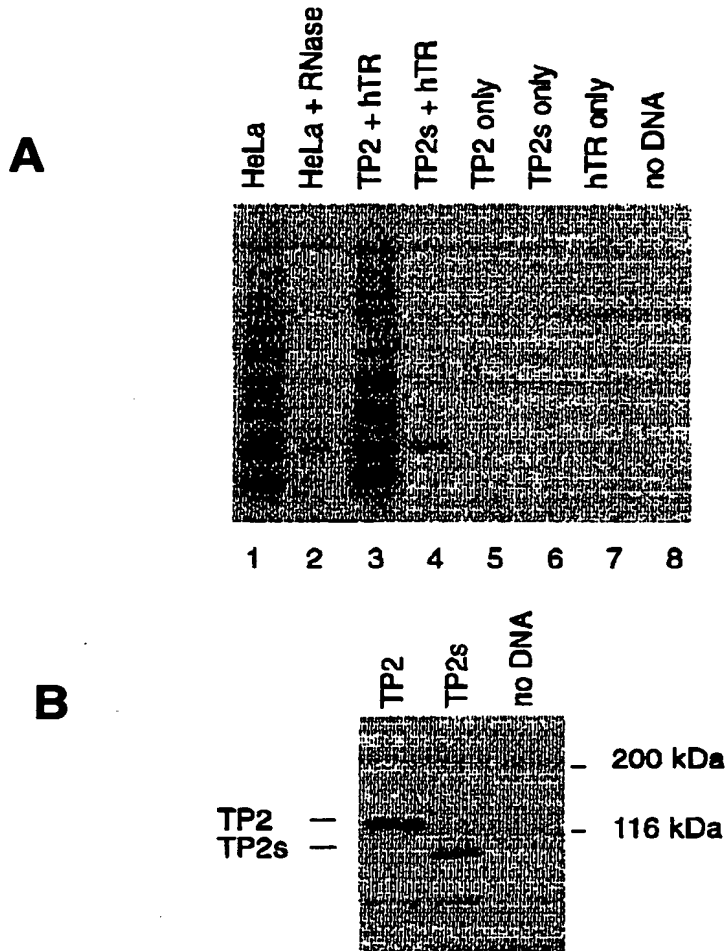


FIG. 18

